

**Date:** March 20, 2012

**To:** Thomas J. Bonfield, City Manager  
**Through:** Theodore L. Voorhees, Deputy City Manager  
**From:** Marvin G. Williams, Director of Public Works  
**Subject:** Contract Amendments for Repaving Projects

### **Executive Summary**

The approval of a budget ordinance amendment proposed in City Council Agenda item #8394 will facilitate contract amendments and use of additional 2010 Street Repaving funds. There are four repaving contracts using 2010 Repaving Bond funds. In order to complete as many streets as possible the Administration recommends that the City Council authorize the City Manager to amend Contract ST-250 with Barnhill Contracting Company; Contract ST-251 with Rea Contracting Company; Contract ST-252 with Triangle Grading and Paving; and Contract ST-253 with Fred Smith Company. Furthermore, and to further support this repaving effort, the staff of Public Works Street Maintenance will use overtime hours to assist with patching of the streets at a reduced cost to that of the contractors. The existing funding plus the new funding being added with this agenda item will not complete all the very poor and poor rated streets. Approximately 6% of the streets will remain unpaved and requires an additional two million dollars. Additional funding sources are being explored and can be added to these contracts at a later date.

### **Recommendation**

The Administration recommends that the City Council:

- 1) Authorize the City Manager to execute an amendment to Contract ST-250 – 2011 Street Repairs and Repaving with Barnhill Contracting Company, Inc. increasing the contract amount by \$683,126.10 for a revised total contract amount of \$6,099,378.30;
- 2) Authorize the City Manager to execute an amendment to Contract ST-251 – 2011 Street Repairs and Repaving with Rea Contracting Company, Incorporated increasing the original contract amount by \$730,000.00 for a revised total contract amount of \$4,793,220.00;
- 3) Authorize the City Manager to execute an amendment to Contract ST-252 – 2011 Street Repairs and Repaving with Triangle Grading and Paving, Inc. increasing the original contract amount by \$1,500,300.00 for a revised total contract amount of \$5,523,725.00;
- 4) Authorize the City Manager to execute an amendment to Contract ST-253 – 2011 Street Repairs and Repaving with Fred Smith Company increasing the original contact amount by \$729,597.00 for a revised total contract amount of \$4,896,957.00; and

5) Authorize the use of approximately \$150,000.00 from the 2010 Repaving Bond funds for Public Works Street Maintenance material purchases and use of overtime to help accomplish the repaving work.

### **Background**

The attached exhibit represents percentages of streets completed to date; streets to be completed in the 2012 paving season; streets that will not be completed without additional funding; and streets that will not be repaved even if additional funds are added due to an overall shortfall of available funds. The existing funding plus the new funding being added with this agenda item will not complete all the very poor and poor rated streets. Approximately 6% of the streets will remain unpaved and requires an additional two million dollars. Additional funding sources are being explored and can be added to these contracts at a later date.

Repaving Contract ST-250 was originally awarded by the City Council on February 21, 2011 to Barnhill Contracting Company, of Raleigh, North Carolina for \$4,066,252.20. Contract ST-250 was amended by the City Council on June 20, 2011 to Barnhill Contracting Company, of Raleigh, North Carolina by \$1,350,000.00 for a total adjusted contract total of \$5,416,252.20 to reconstruct Revere Road. The Administration recommends that Contract ST-250 – 2011 Street Repairs and Repaving with Barnhill Contracting Company, Inc. be amended by \$683,126.10. This represents a 12.6% increase over the \$5,416,252.20 previously authorized expenditure to facilitate repaving activities for a total contract amount of \$6,099,378.30.

Repaving Contract ST-251 was awarded by the City Council on February 21, 2011 to Rea Contracting Company of Raleigh, North Carolina for \$4,063,220.00. In an effort to finish the entire two-year project in one repaving season, Rea Construction Company expedited repaving efforts during the 2011 paving season. Their intention was to complete twice the amount of paving required by the contract for the 2011 paving season. The progress of Rea is tracked by daily reports entered into the Primavera software program. The pace of paving in Rea's final month, October 2011 was twice the effort of previous months. Rea fell behind in entering the daily reports for the month of October, and the Public Works project management team did not discover the issue until the first of November. As the missing reports were entered, the magnitude of paving became known, and the Public Works project management realized Rea had doubled production and far exceeded the previous month's efforts. Upon analysis of the final tally, it was determined that Rea had exceeded the original dollar value of the contract, \$4,063,220.00 by approximately \$730,000.00. The work in place is of a good quality. To rectify the situation, additional 2010 Bond funds need to be added to the contract to pay for work already completed.

Repaving Contract ST-252 was awarded by the City Council on February 21, 2011 to Triangle Grading and Paving, Inc. of Raleigh, North Carolina for \$4,023,425.00. The Administration recommends that Contract ST-252 – 2011 Street Repairs and Repaving with Triangle Grading and Paving, Inc. be amended by \$1,500,300.00. This represents a 37.3% increase over the \$4,023,425.00 previously authorized expenditure to facilitate repaving activities for a total contract amount of \$5,523,725.00.

Repaving Contract ST-253 was awarded by the City Council on February 21, 2011 to Fred Smith Company of Raleigh, North Carolina for \$4,167,360.00. The Administration recommends that Contract ST-253 – 2011 Street Repairs and Repaving with Fred Smith Company be amended by \$729,597.00. This represents a 17.5% increase over the

\$4,167,360.00 previously authorized expenditure to facilitate repaving activities for a total contract amount of \$4,896,957.00.

All four repaving contracts will fall short of the original repaving goals by approximately 20 percent unless additional resources and adjustments are applied to the overall program. Contract ST-251 is now complete and is short of their original list of streets to repave. There are remaining funds in the other three contracts, ST-250, ST-252, and ST-253, but at the conclusion of the 2012 paving season, they will fall short of their repaving goals as well.

### **Issues and Analysis**

In some cases streets that were rated in Fair condition in the 2007 ITRE study, but over the last 5 years had deteriorated, were repaved. Overall, the amount of patching prior to repaving exceeded original estimates. A primary factor is the cost of asphalt has risen. The contracts include an escalation clause that sets the cost of asphalt to market values. This removes some of the risk from the contractor and allows them to provide a price focused around their labor effort. The overall shortfall in street completion is due to two factors. Those factors are an increase in the cost of the liquid asphalt binder component, and the contractors placing a 1.75 inch layer of pavement that is a ¼ inch thicker than the ideal of 1.5 inches.

The cost for the liquid asphalt binder component of the work completed during 2011 came in \$793,700 over the budget of \$3,616,200, a 22.2% increase. This cost of binder is indexed to the world-wide oil market and the index used in our contracts is published on the NCDOT website. Based on the price of oil in February 2012 the adjusted cost of binder is at its highest point, \$657.67 per ton versus the low point of \$589 per ton (ST-253) last October. According to leading news sources, gasoline costs during 2012 are projected to be in the \$4 to \$5 per gallon range and the current price is approximately \$3.76 per gallon. As a result, the amount that binder costs will very likely exceed the budget during the 2012 paving season and is expected to substantially exceed the prior year.

Asphalt core samples taken during last paving season showed that the average thickness of new pavement applied was 1.78 inches as opposed to the minimum allowable thickness of 1.5 inches. Had the installed thickness been closer to the minimum required, the contractors might have paved 15% more street-miles last year. Public Works will be monitoring this more closely, and use a different asphalt mix with a 1" minimum thickness where possible. However, some streets will continue to require more than the minimum to provide a smooth ride and repair surface defects.

Alternative paving methodologies are being explored to determine if their use will allow more streets to be repaved. These methodologies will use a thinner paving layer. The standard used to date places a 1.5" layer. These alternative methodologies use a thinner 1" or 5/8" layer. Their use requires the existing pavement to be in a less deteriorated condition. Public Works staff is inspecting all remaining streets to determine which streets are good candidates for the alternative layers. Use of a thinner layer is less costly and therefore allows our limited dollars to go further.

### **Alternatives**

City Council can choose to not approve the contract amendment for ST-251 with Rea, but that will present contractual complications as the work has already been completed. Approval of this contract will allow the City to compensate Rea for work in place that is of good quality.

For the remaining three contracts, ST-250, ST-252 and ST-253, City Council can choose to not move forward with the contract amendments to extend the repaving.

**Financial Impact**

Funds will be available in the 2010 Repaving Bonds CIP Project LE-300 with the approval of the ordinance amendment proposed in City Council Agenda item #8394. The total cost for the contract amendments for Contracts ST-250, ST-251, ST-252, and ST-253 is \$3,643,023.10. An additional amount of approximately \$150,000.00 from the 2010 Repaving Bond funds is proposed to be used for Public Works Street Maintenance for material purchases and use of overtime to help accomplish the repaving work at a reduced cost to that of the contractors.

Material price volatility will remain a major risk factor for the additional repaving work to be completed.

**SDBE Summary**

The Equal Opportunity/Equity Assurance Department determined that Contract ST-250 with Barnhill Contracting Company, Contract ST-251 with Rea Contracting Company, Incorporated, Contract ST-252 with Triangle Grading and Paving, and Contract ST-253 with Fred Smith Company were in compliance when the contract was originally awarded. These four contracts will meet or exceed the goals with the additional funds.